

## Repellents

Repellents may be used to repel ticks and prevent tick attachment. Always read and follow all label directions carefully. Repellents containing DEET may be applied to the skin and clothing. Both CDC and the American Academy of Pediatrics recommend that DEET not be used in children less than two months of age, and for children older than two months of age, the level should not be higher than 30 percent. For adults, CDC recommends the amount should be between 20 and 50 percent. Repellents containing permethrin may be applied to clothing only.

## Personal Protection

Ticks will remain active year-round (above 40° F/4.4°C). Preventive measures should be used whenever tick-exposure is likely. Here are some steps to follow:

- Wear light-colored clothing
- Wear long pants and sleeves
- Tuck your pants into your socks
- Tuck your shirt into your pants
- Use repellents as directed
- Walk along the center of trails
- Conduct frequent clothing checks
- Once home, dry clothing on the highest temperature setting for at least 10 minutes to kill any ticks
- Carefully inspect your body for ticks
- Keep pets from tick infested areas and check them before entering the house

## Suggestions for Homeowners

Ticks do not jump, fly, or fall from trees. They crawl close to the ground on leaves, brush and tall grass. Thus, homeowners should:

- Keep lawn mowed and bushes trimmed
- Remove lawn debris and leaf litter
- Discourage rodents by reducing nesting sites (e.g. wood piles or holes in stone walls) or food sources (e.g. bird seed)
- Move lawn furniture and children's toys away from wooded areas or wooded edges of your yard where ticks are more likely to be found

## Tick Removal

Prompt and proper tick removal is essential and may decrease your chances of getting tick-borne diseases. The steps are:

- Use fine-point tweezers or tick-removal tools.
- Grasp the tick where its mouthparts enter the skin and pull the tick straight out.
- Do not twist or squeeze the tick's body. Be patient – proper tick removal takes time.
- Do not use petroleum jelly, gasoline, lit matches, oils, or any other remedies to remove ticks. These methods may actually increase your chances of contracting a disease.
- After removing the tick, disinfect the bite area and wash your hands.
- Monitor the bite area for a bull's-eye rash.
- Call your healthcare provider if you get any symptoms.

Ticks do not burrow under the skin and any remaining mouthparts after tick removal will not transmit disease. Therefore, additional aggravation of the bite site may cause secondary bacterial skin infections.



STEVEN BELLONE  
SUFFOLK COUNTY EXECUTIVE

JAMES L. TOMARKEN  
MD, MPH, MBA, MSW  
COMMISSIONER

SUFFOLK COUNTY  
DEPARTMENT OF HEALTH SERVICES

*For more information visit:*

**Suffolk County** — [www.suffolkcountyny.gov/Departments/HealthServices/PublicHealth/PreventiveServices/ArthropodborneDiseaseProgram/Ticks](http://www.suffolkcountyny.gov/Departments/HealthServices/PublicHealth/PreventiveServices/ArthropodborneDiseaseProgram/Ticks)

**CDC** — <http://www.cdc.gov/niosh/topics/tick-borne/>

**American Academy of Pediatrics** — [AAP.org](http://AAP.org)

# Ticks and Tick-Borne Diseases of Suffolk County, NY



CDC/James Gathany; William Nicholson

## Helpful Information for Suffolk County Residents



Updated May 2018

# Ticks and Tick-Borne Diseases

## Blacklegged Ticks

also known as Deer Ticks

(*Ixodes scapularis*) typically transmit Lyme disease, anaplasmosis and babesiosis.

**Lyme disease** is caused by the bacterium *Borrelia burgdorferi*. A characteristic sign of Lyme disease is a red circular rash (bull's-eye rash) that may appear a few days to a month, at the site of the bite, after being bitten by an infected tick. Multiple rashes may develop. About 60-80% of people who get Lyme disease develop a bull's-eye rash. Flu-like symptoms, such as fever, headache, fatigue, stiff neck and muscle/joint pain, are also common in early Lyme disease. If left untreated, Lyme disease can cause complications such as recurring swollen and painful joints, temporary facial paralysis or heart problems.

**Anaplasmosis** is caused by the bacterium *Anaplasma phagocytophilum* and may cause flu-like symptoms 1-3 weeks after the bite of an infected tick. Infection usually produces mild to moderately severe illness, with high fever and headache, but may occasionally be life-threatening or even fatal.

**Babesiosis** is a rare and sometimes deadly disease caused by the protozoan *Babesia microti*. The disease can cause fever, fatigue and hemolytic anemia lasting from days to months. It may take from 1-8 weeks for symptoms to appear.



**Public Health**  
Prevent. Promote. Protect.

## Lone Star Ticks

(*Amblyomma americanum*) typically transmit ehrlichiosis, tularemia and Southern Tick Associated Rash Illness (STARI).

**Ehrlichiosis** is caused by the bacterium *Ehrlichia chaffeensis* and is similar in many ways to anaplasmosis.

**Tularemia** is caused by the bacterium *Francisella tularensis*. Within two weeks, symptoms appear which include swollen lymph glands and a skin ulcer at the site of the bite of an infected tick.

**STARI** is specifically associated with bite of a lone star tick but the cause of STARI is unknown. Individuals infected with STARI may develop flu-like symptoms and a bull's-eye rash. However, STARI itself does not appear to be serious or potentially fatal.

**Alpha-gal** is a red meat allergy thought to be caused by bites of lone star ticks. Symptoms may start 3-6 hours after eating red meat and may include severe itching, hives and, in severe cases, cramping, vomiting, diarrhea, wheezing, shortness of breath and loss of consciousness.

## American Dog Ticks

(*Dermacentor variabilis*) typically transmit Rocky Mountain spotted fever and tularemia.

**Rocky Mountain spotted fever (RMSF)** is caused by the bacterium *Rickettsia rickettsii*. RMSF is characterized by a sudden onset of moderate to high fever (which can last for 2-3 weeks), severe headache, fatigue, deep muscle pain, chills and rash, which begins on the legs/feet or arms/hands, and may spread rapidly to the rest of the body. Symptoms usually appear within 2 weeks of the bite of an infected tick.

**Tularemia** (see above).

## Transmission

Ticks require a blood meal three times in their two-year life cycle. Ticks will attach to your skin and feed for 2-7 days depending on the tick's stage. Studies have shown that the tick must stay on the body for about 36 hours to transmit Lyme disease. As a result, protective measures and prompt tick removal is essential in reducing your risk of infection.

## Diagnosis and Treatment

Be sure to seek medical attention if you become ill after a tick bite. Generally, an evaluation of symptoms and blood tests will be used in making a diagnosis. Prompt diagnosis and treatment improves outcomes. Your healthcare provider will determine the appropriate treatment for you.

## What to Look For

